

WANHUA CHEMICAL OVERSEAS CATALOG FOR COATINGS

WANHUA CHEMICAL GROUP CO., LTD.



Wanhua Chemical Performance Chemicals Business Unit

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Disclaimer

We recommend all customers to use our products on the basis of the detailed data in this Material Safety Data Sheet (MSDS). We also suggest contacting us to confirm the product features before application.

We believe that these suggestions and data are authentic and reliable. The information in this technical data sheet, express or implied, regarding product features, application, quality, safety, product specification, merchantability, and applicability of specific use is only for reference. No warranty is given. Information provided should not be regarded as the permission for implement of patent technology, also should not be regarded as inducement to implement the patent technology without the owner's authorization.





Introduction

About Wanhua

Wanhua Chemical Group Co.,Ltd. is among the global leading suppliers of chemical innovative products. Relying on the continuous innovation, commercialized facilities and efficient operation, the company provides customers with more competitive products and solutions.

Wanhua Chemical has always been adhering to innovation and optimizing industrial structure. Our business covers polyurethanes, petrochemicals, performance chemicals, and emerging materials. The industries include homeware and furniture, sports and leisure, automobiles and transportation, building and construction, electronics and electrical appliances, personal care, and green energy.

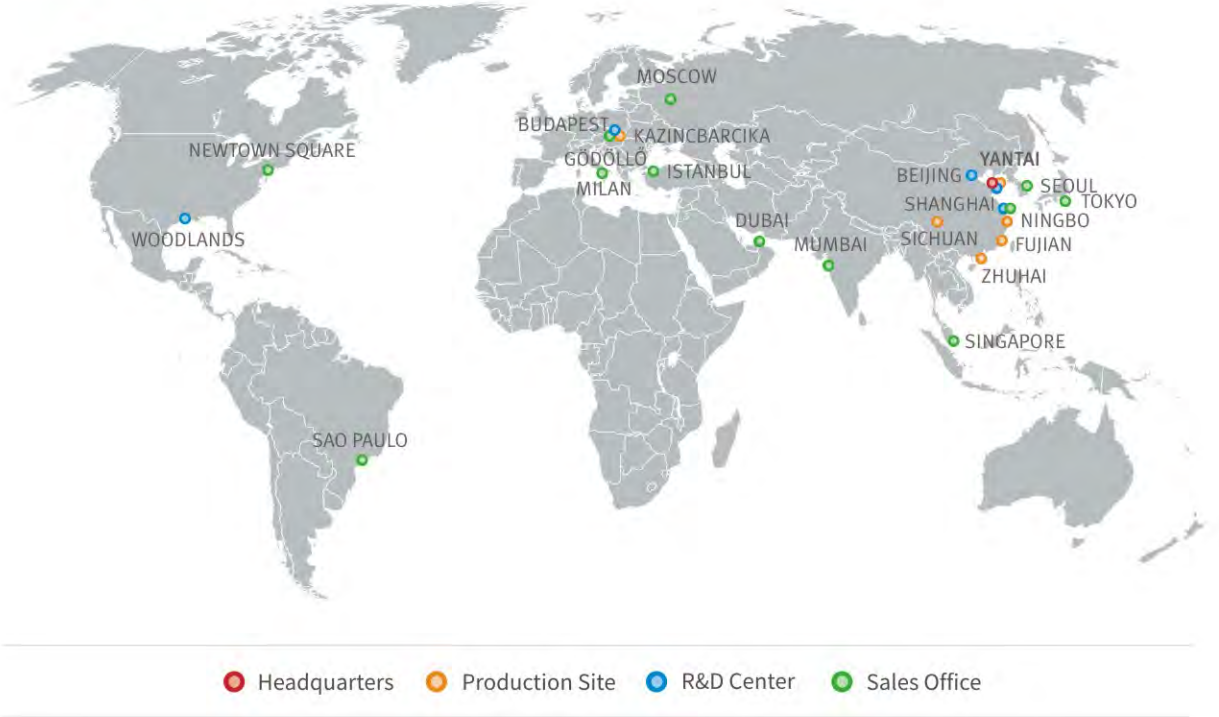
Wanhua Chemical has built up six key production complexes in Yantai, Ningbo, Fujian, Sichuan, and Zhuhai in China, and Hungary, which are integrated with complete supporting facilities. To provide our customers worldwide with competitive products and comprehensive solutions, Wanhua has established R&D centers in Yantai, Ningbo, and Beijing in China, as well as in North America and Europe, set up subsidiaries and offices in more than ten countries and regions including Europe, the United States, and Japan.

Wanhua Chemical will take "Advancing Chemistry, Transforming Lives" as the first mission, we are committed to providing customers with stable, high-quality, competitive products and efficient services, and to being a responsible supplier and industry leader. We will continue to innovate in the field of chemical new materials, lead the development of the industry, and create a better life for mankind!

Business Scope

Polyurethane				
• Isocyanate		• Polyether polyol		
Petrochemicals				
• Ethylene	• HDPE	• NPG	• MMA	• BD
• EO	• PVC	• AA	• PO	• MTBE
• MEG	• Propane	• GAA	• PP	• TBA
• SM	• Propylene	• MA	• Butane	• IB
• LLDPE	• NBL	• BA	• IBT	• DIBE
Performance Chemicals				
• Silicone	• Water-based Resins	• EOD	• Specialty Amines	
• Rubbers & Plastics	• Home & Personal Care	• Membrane Material		
Emerging Materials				
• Battery Materials	• Electronic Materials	• 3D Printing Materials		

Global Network



Awards & Honors

2007

The first prize of National Science and Technology Progress

2008

National Environment-friendly Project

2010

The second prize of National Science and Technology Progress

2011

China Grand Awards for Industry-Recognition Award

2012

Top 100 Innovative Companies in China

2015

Shandong Governor Quality Award

2009-2017

Five consecutive sessions Award for Hewitt Best Employers in China

2018

C&EN-Global Top 50

2019

The first Chinese company to join the Together for Sustainability (Tfs) Initiative in 2019

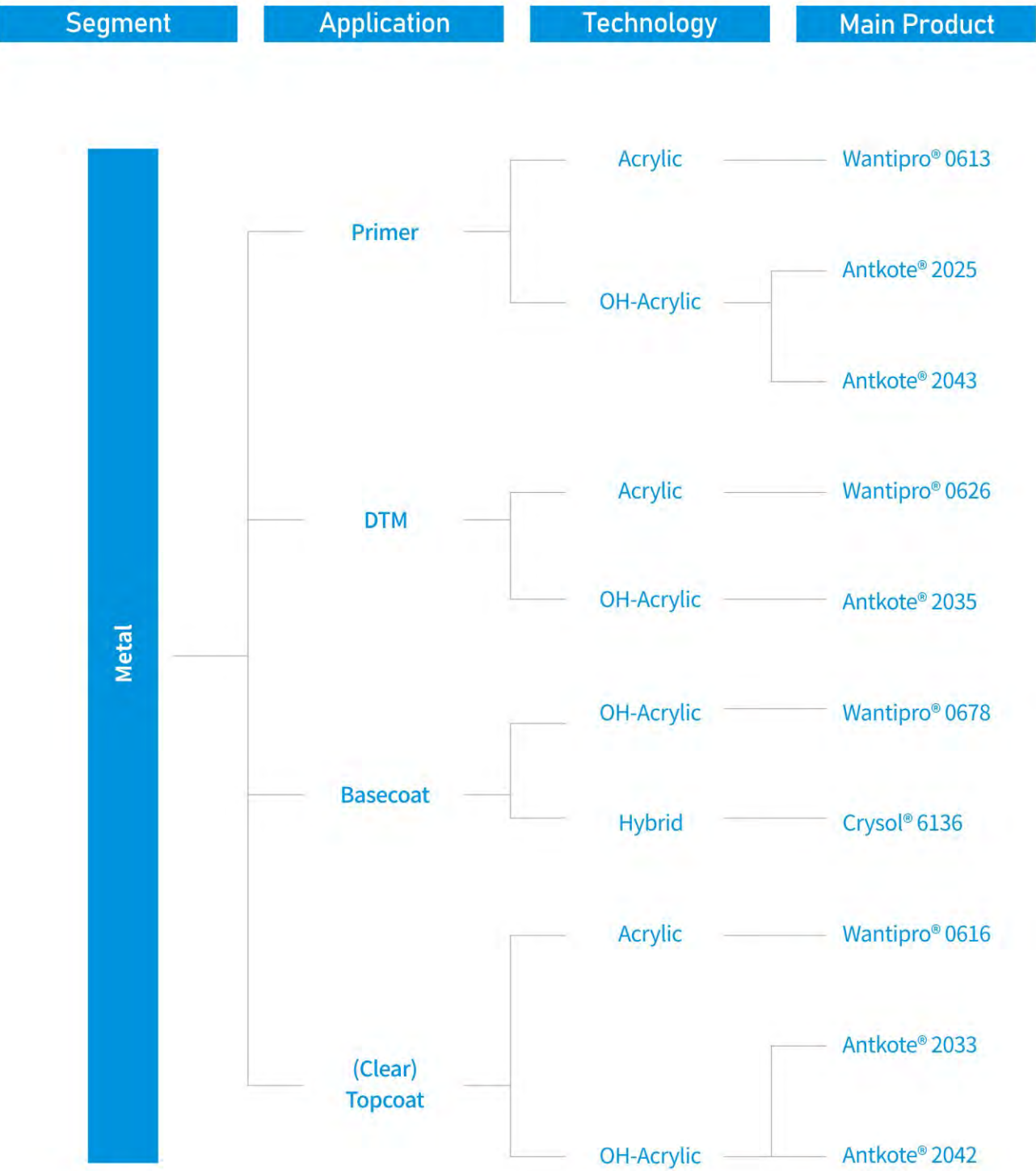
2020

Consolidation of Wanhua Chemical (Fujian) Co., Ltd.
The ethylene cracking unit was successfully started up at once, thus all the key units in ethylene industry chain were successfully commissioned
The Wanhua Sichuan site phase i modified plastics project was successfully delivered

Catalog for coatings

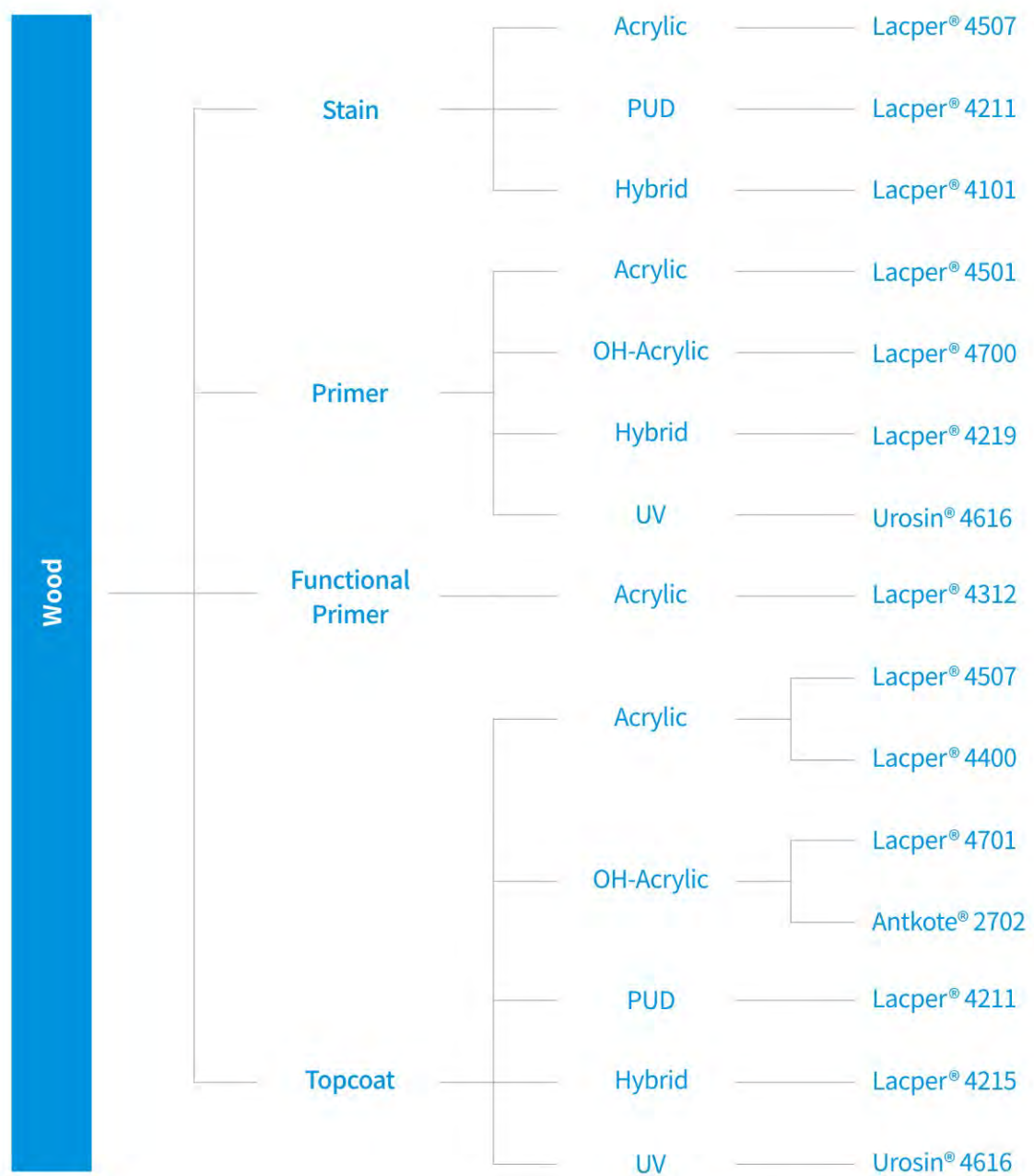
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Decision tree for waterborne product

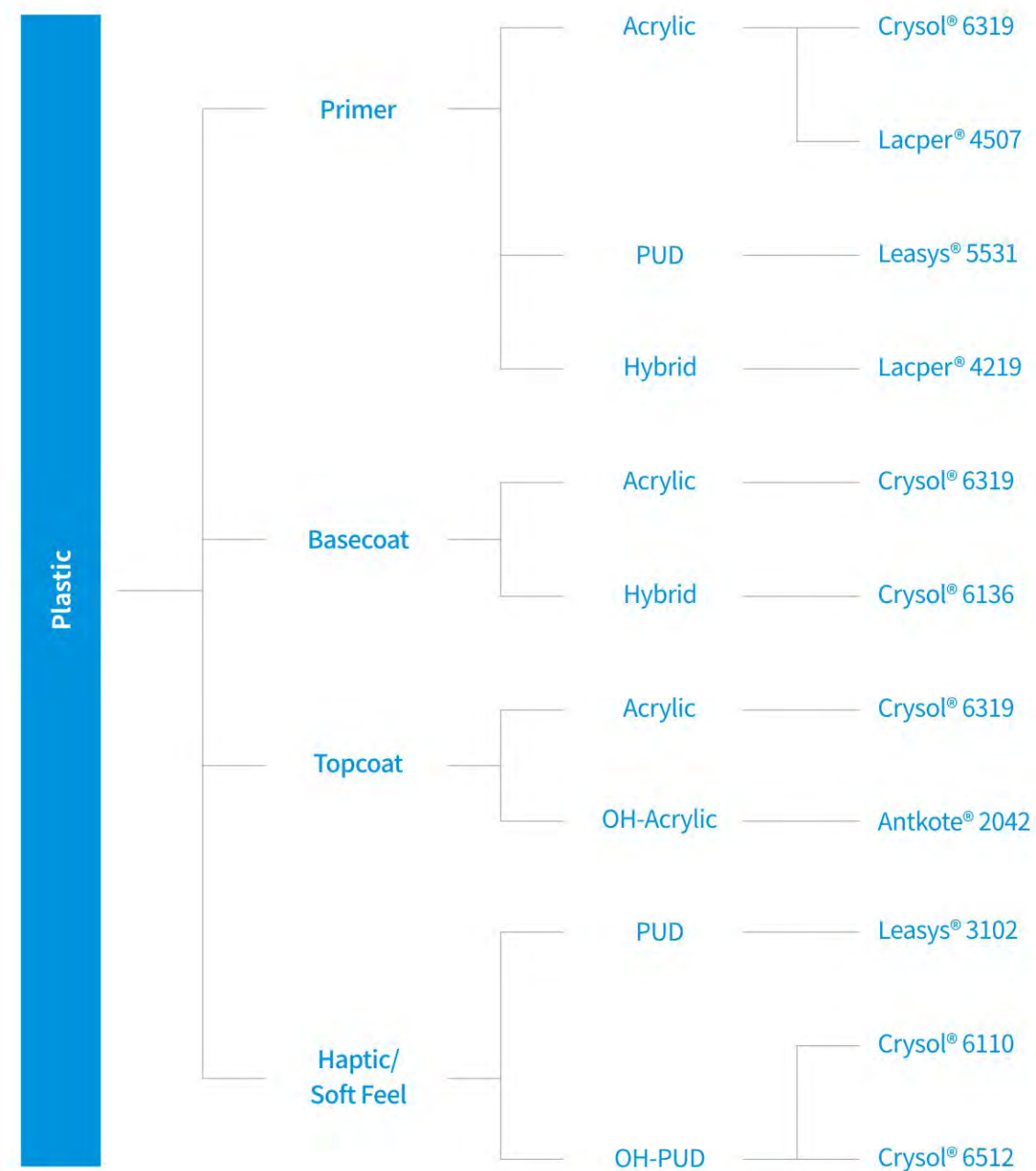


Decision tree for waterborne product

Segment	Application	Technology	Main Product
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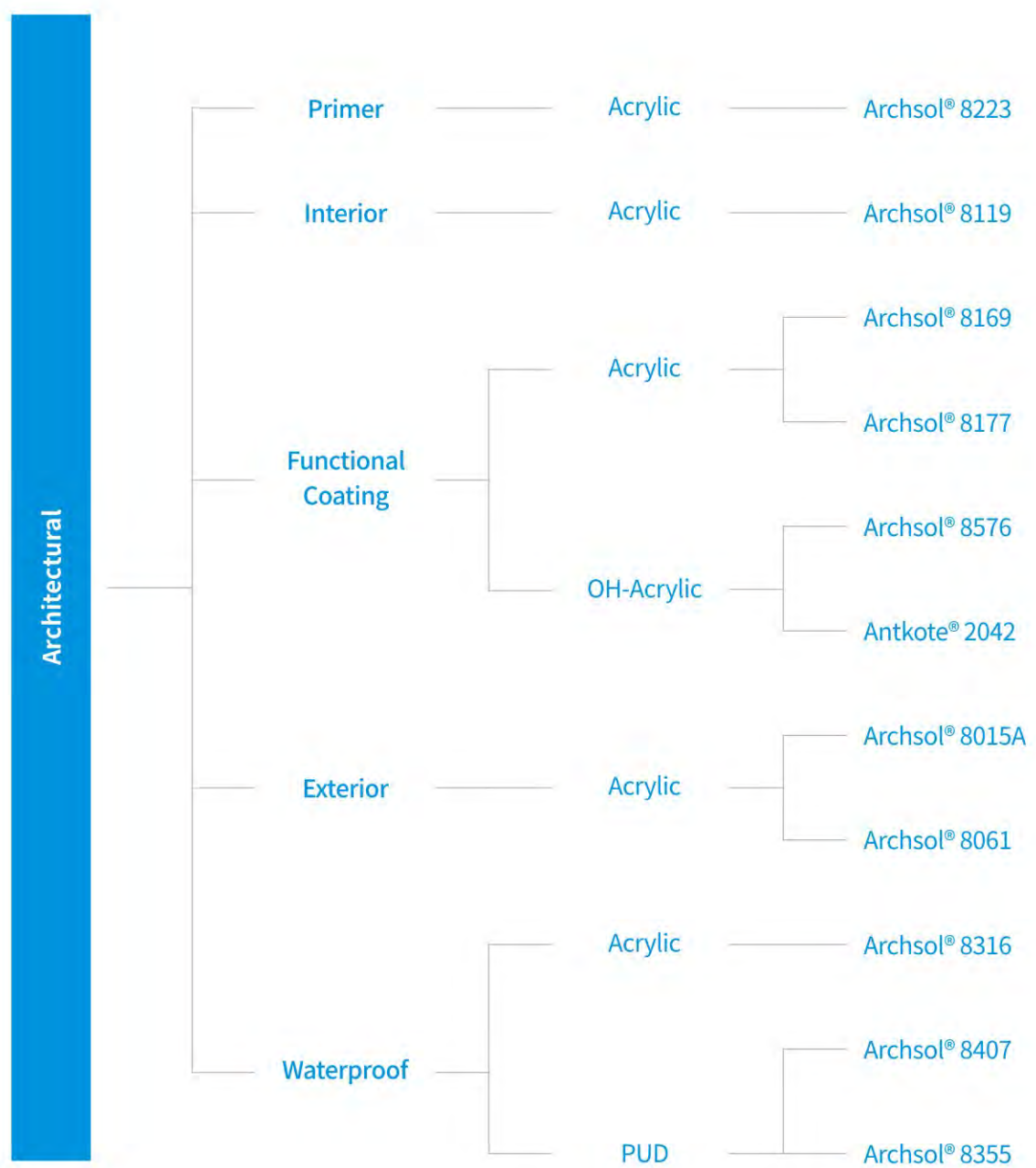


Segment	Application	Technology	Main Product
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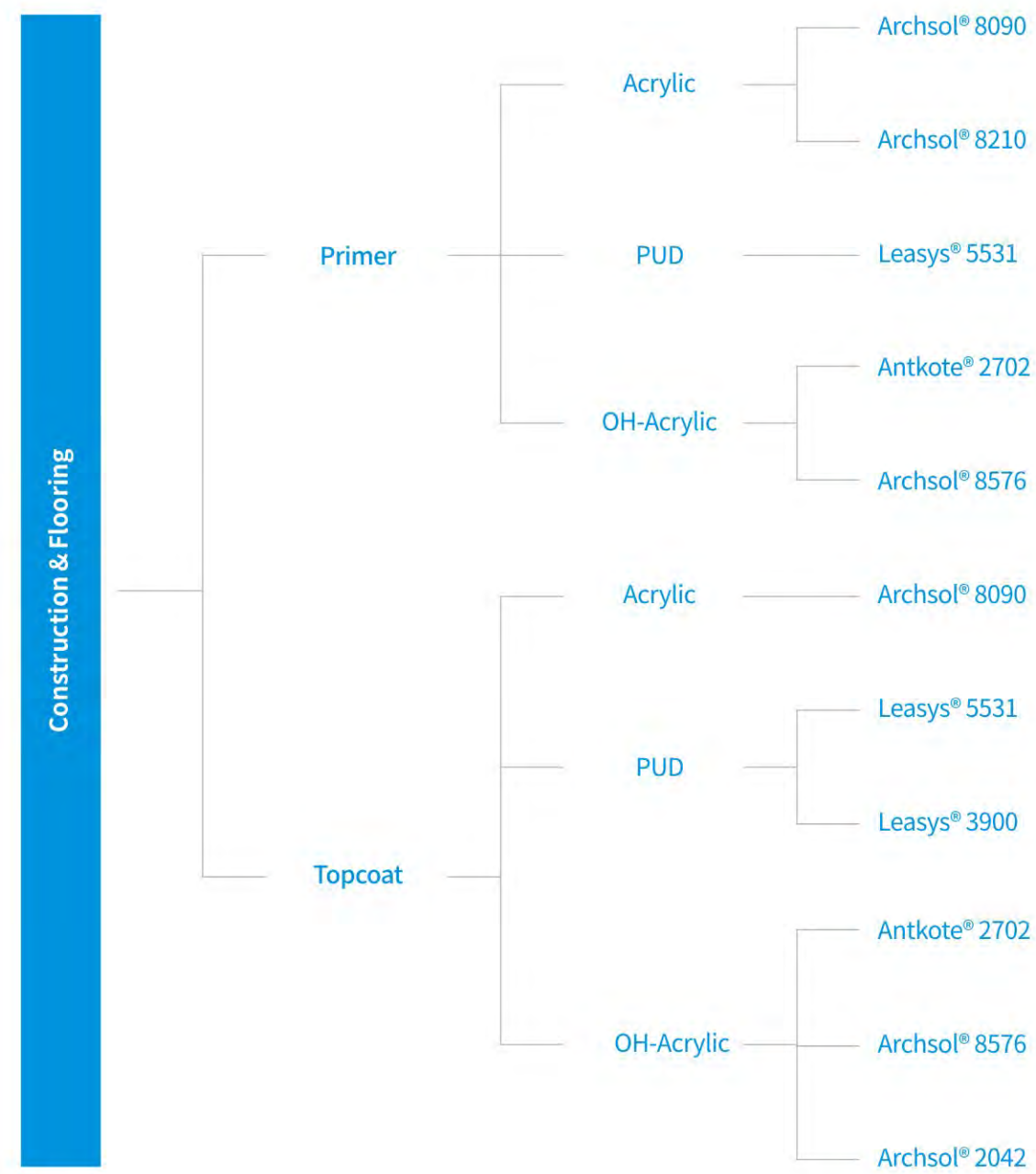


Decision tree for waterborne product

Segment	Application	Technology	Main Product
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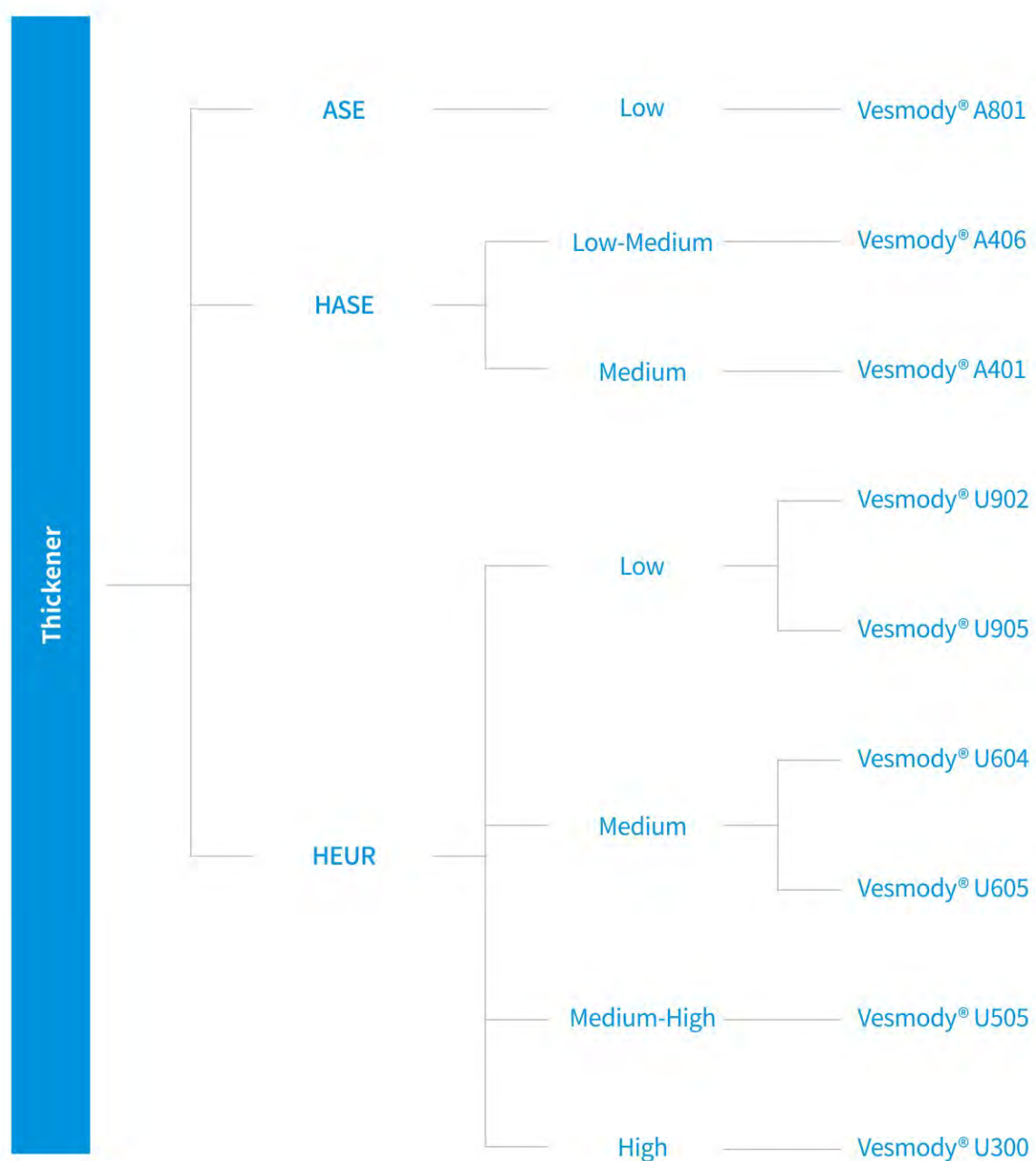


Segment	Application	Technology	Main Product
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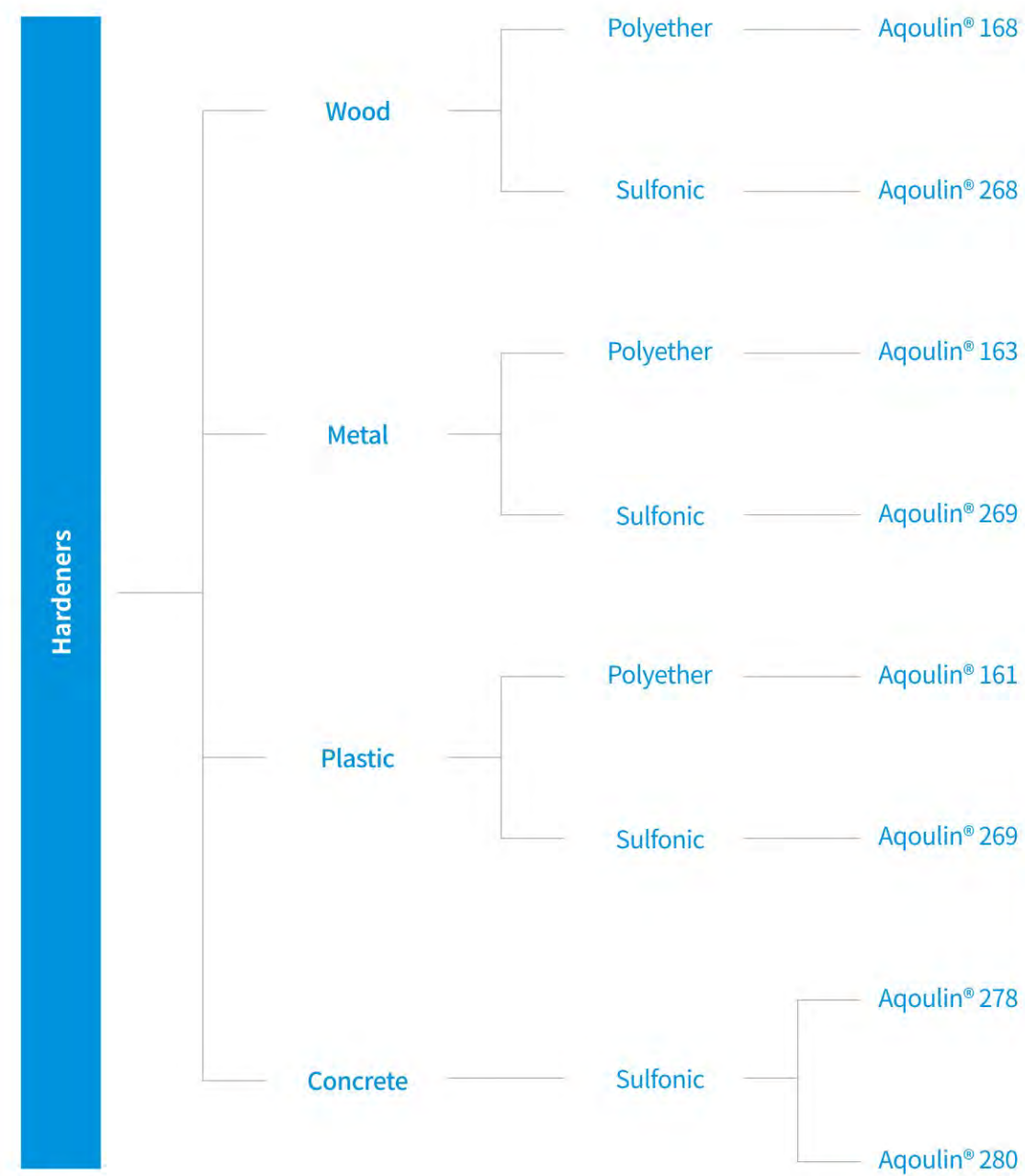


Decision tree for waterborne product

Segment	Technology	Shear rate	Main Product
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Segment	Application	Technology	Main Product
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Waterborne resin — Pure Acrylic

Product	Solid content (%)	Viscosity (mPa.s)	pH	MFFT (°C)	Modification	Key Features	Interior	Exterior	Primer Sealer	Midcoat Basecoat	Clearcoat Topcoat	Metal	Wood	Plastic	Wall	Concrete	Glass
Lacper® 4312	40	10-200	8-10	10	cationic modification	Emulsion for wood sealer with excellent stain blocking and knot bleeding properties.	X	X	X	0			X		0		
Lacper® 4400	40	10-200	7-9	44	self crosslink	Emulsion designed for indoor and outdoor furniture, can meet Ikea's R2.	X	0	X	X	X		X	0			
Lacper® 4501	40	10-200	7-9	32	self crosslink	All-round emulsion with food sandability and water resistance.	X	0	X	X	X		X				
Lacper® 4507	40	10-500	7-9	35	self crosslink	Small particle size emulsion for high transparency products. It shows good hardness and drying speed and good chemical resistance.	X	0	X	X	X		X	X			
Lacper® 4570	42	10-500	7-9	5	self crosslink	Emulsions with outstanding durability, flexibility, block and water resistance. Mainly used for outdoor applications. Also has good adhesion to PVC.	0	X	X	X	X		X	0			
Archsol® 8169	48	10-1000	7.5-9.5	2	formaldehyde purification	Copolymer for low odor & VOC latex paint with formaldehyde purification function, good scrub resistance and early-chalking resistance even in lower dosage.	X				X				X		
Archsol® 8171	48	10-700	7.5-9.5	0	bio-based, formaldehyde purification	Bio-based copolymer (30%) for low odor & VOC latex paint with formaldehyde purification function, good scrub resistance and early-chalking resistance even in lower dosage.	X				X				X		
Archsol® 8177	52	50-1000	7-9	<5	bio-based, formaldehyde purification	Bio-based copolymer (30%) with excellent film forming property, eventat low temperature to formulate low odor & VOC latex paint with formaldehyde purification function, good scrub resistance and early-chalking resistance even in lower dosage.	X				X				X		
Archsol® 8090	41	10-200	7-9	>60		Emulsion for exterior latex paint, (clear) topcoat, concrete sealer and masonry sealer with ultra-excellent dirt pick-up resistance.	X	X	X	0	X				X	X	
Archsol® 8210	30	<500	7-9	0	morphology	Emulsion for exterior concrete sealer with excellent penetration, alkali and salting-out resistance.	X	X	X		0				X	X	

X Recommended 0 Possible

Waterborne resin — Styrenated Acrylic

Product	Solid content (%)	Viscosity (mPa.s)	pH	MFFT (°C)	Key Features	Interior	Exterior	Primer Sealer	Midcoat Basecoat	Clearcoat Topcoat	Metal	Wood	Plastic	Wall	Concrete	Glass
Wantipro® 0612	43	10-200	7-9	37	General purpose emulsion, fast drying and good hardness as well as water resistant.	X	X	X		X	X					
Wantipro® 0613	45	10-300	7-9	26	General purpose emulsion, lower coalescent demand, fast drying, corrosion and water resistant.	X	X	X		0	X					
Wantipro® 0616	40	10-300	7-9	48	Excellent durability and water resistance (e.g. white spots) together with wide application window.	X	X			X	X					
Wantipro® 0618	50	10-500	7-9	17	General purpose emulsion, lowest coalescent demand, fast drying, corrosion and water resistant.	X	X	X		X	X					
Wantipro® 0620	45	10-200	7-9	55	General purpose emulsion, extreme fast drying & hardness build-up. Very suitable to enhance acrylic, urethane and alkyd emulsions properties.	X	X	X	X	X	X	0				
Wantipro® 0626	48	100-1500	7-9	37	Emulsion with balanced properties to suit DTM application with respect to corrosion and water resistance.	X	X	X	X	X	X					
Crysol® 6319	40	10-200	8-10	>90	Excellent adhesion to a variety of plastic substrates (PC, PC+ABS, ABS, PS etc.). Good alcohol resistance.	X	0	X	X	X		0	X			
Lacper® 4600	43	10-200	7-9	36	Emulsion with broad adhesion profile, especially for aged coatings and very good pigment dispersing properties.	X	X	X		X	0	X				
Lacper® 4316	40	10-200	7-9	60	Hard emulsion for fast drying wood primers with excellent sanding properties.	X	0	X	0			X				
Arcshol® 8119	48	100-1200	7-9	28	Emulsion for cost efficient wall paints with excellent scrub resistance.	X		X		X				X		
Arcshol® 8316	55	500-1500	7-9	<0	Emulsion for waterproof coating having excellent cement compatibility.	X	X			X				0	X	

Waterborne resin — OH functional Acrylic

Product	Solid content (%)	Viscosity (mPa.s)	pH	MFFT (°C)	OH on solids (%)	Key Features	Interior	Exterior	Primer Sealer	Midcoat Basecoat	Clearcoat Topcoat	Metal	Wood	Plastic	Wall	Concrete	Glass
Lacper® 4700	40	10-500	7-9	46	1.5	OH functional emulsion with fast drying and good sandability	X	X	X	0		X	X				
Lacper® 4701	43	10-1000	7-9	46	1.6	OH functional emulsion with fast drying and good sandability, good compatibility with PUD/PUA	X	X	X	0	X		X				
Lacper® 4702	45	10-300	1-3	60	3	OH functional emulsion with fast drying, high hardness, can be used for stoving applications	X	X	0		X		X				
Antkote® 2025	43	2000-95000	7-9		2	OH functional dispersion for high gloss, durable industrial coating with long potlife	X	X	X		0	X				0	
Antkote® 2033	46	150-1850	7-9		3.3	All-round OH functional dispersion designed for ACE and anti-corrosion coatings	X	X	X		X	X	0			X	
Antkote® 2035	43	100-5000	7-9		3	All-round OH functional dispersion designed for ACE and anti-corrosion coatings with better BFFT	X	X	X		X	X	0			X	
Antkote® 2042	46	150-3800	7-9		4.2	OH functional dispersion for high-end application with very good durability, hardness and very high gloss/levelling. Can also be used as anti-graffiti layer.	X	X			X	X	0	X	X	X	0
Antkote® 2057	37	100-8000	7-9		2.6	OH functional dispersion for high temperature baking coatings, possible to make aluminum coating.	X	X			X						X
Antkote® 2365	50	5000-15000	7.5-9.5		2.8	OH functional dispersion for high temperature bake glass coatings with excellent alcohol resistance.	X	X			X						X
Antkote® 2367	50	1000-8000	7.5-9.5		3.8	OH functional dispersion for high temperature bake glass coatings with excellent (hot) water resistance.	X	X			X						X
Antkote® 2702	45	<3000	7-9		3.9	OH functional dispersion that can be used for ambient and high temperature cure machinery, ACE and anti-corrosion coatings	X	X	X		X	X	X			X	
Archsol® 8576	48	<500	3.5-5.5	5	3	OH functional emulsion for fast drying and hard decorative coatings that should have excellent chemical resistance (e.g. anti-graffiti) that can be used for both high gloss and matt systems.	X	X	X		X				X	X	

X Recommended 0 Possible



Waterborne resin — Polyurethane

Product	Solid content (%)	Viscosity (mPa.s)	pH	Backbone	Key Features	Interior	Exterior	Primer Sealer	Midcoat Basecoat	Clearcoat Topcoat	Metal	Wood	Plastic	Wall	Concrete	Glass
Leasys® 4211	40	10-200	7-9	Polyester	Aliphatic polyester-polyurethane with good flexibility, hardness & blocking resistance. Very good water resistance.	X	X	X	X	X		X	X			0
Leasys® 3102	35	300-1200	7.5-10.5	Polyester	Aliphatic polyester-polyurethane for haptic control (soft-feel) and gloss adjustment with good handle and elasticity.	X	X			X			X			X
Leasys® 5531	35	20-300	7-9	Polyester	Aliphatic polyester-polyurethane for high gloss and good handle	X	X	X		X		X	X		X	0
Leasys® 3900	38	20-1000	7-9	Polyether	Aliphatic polyester-polyurethane for high gloss, hard handle and high transparency.	X	X	X		X		X	0		X	
Archsol® 8407	50	20-1000	7-9	Polyester	Aliphatic polyester polyurethane specially designed for waterproof coating with very good mechanical properties.	X	X	X		X					X	
Archsol® 8355	50	10-1000	6-9	Polyether	Aliphatic polyether polyurethane designed for waterproof coating that needs good acid and alkali resistance and flexibility at low temperature.	X	X	X		X					X	
Leasys® 3459	50	100-1000	7-9	Polycarbonate	Aliphatic polycarbonate polyurethane designed for hydrolysis stable formulations that need excellent wear and chemical resistance.	X	X			X			X			
Leasys® 3468	50	20-500	7-9	Polyester	Aliphatic polyester polyurethane designed for flexible formulations that need good hydrolysis and yellowing resistance.	X	X			X			X			0



Waterborne resin — Modified Polyurethane

Product	Solid content (%)	Viscosity (mPa.s)	pH	MFFT (°C)	OH on solids (%)	Modification	Key Features	Interior	Exterior	Primer Sealer	Midcoat Basecoat	Clearcoat Topcoat	Metal	Wood	Plastic	Wall	Concrete	Glass
Crysol® 6136	40	10-500	7-9	>60		Acrylic	Hybrid PUD for high performance applications that need broad adhesion profile, good hardness, alcohol and weathering resistance. Specially designed for effect coatings.	X	X		X	X	X		X			
Crysol® 6512	48	50-1000	7.5-9.5		1.5	OH	OH functional PUD to formulate haptic coatings (soft-feel) with excellent adhesion on plastic substrates cominbed with excellent chemical resistance.	X	X			X			X			X
Crysol® 6110	49	10-1000	7-9		<0.5	OH	OH functional aliphatic polyester-polyurethane for haptic control (soft-feel) and gloss adjustment with good abrasion resistance.	X	X			X	0	0	X	0		0
Urosin® 4616	37	10-500	7-9			UV curable	UV curable PUD with fine particle size, used in wood and plastic coatings, with high tranpsarancy and matting efficiency. The paint is tack free before UV cure.	X	X	X	X	X		X	0			
Lacper® 4101	35	10-500	7-9	49		Fatty acid	Oil modified aliphatic polyurethane with excellent wood wetting and penetration capabilities. Shows good tranparancy and wood warming ("anfeuerung") effect. Has also good adhesion on PU/PE/UV/Melamine substrates	X	X	X	X	X		X				
Lacper® 4215	40	<500	7-9	47		Fatty acid / self crosslink	Oil modified self crosslinking aliphatic polyurethane for a wide range of wood applications.	X	X	X	X	X	0	X				
Lacper® 4219	40	10-500	7-9	48		Acrylic	Acrylic modified PUD for indoor and outdoor wood applications that need faster hardness development (inlcuding block reistance) and drying speed.	X	X	X	X	X		X	X			
Wantipro® 0336	35	10-2000	7-9		2.5	OH	OH functional polyurethane designed for stoving applications (e.g. OEM Primer) which has broad compatibility, is shear stable and had excellent mechanical properties (e.g. stone chip) and chemical resistance.	X	X	X			X					
Wantipro® 0355	88	1000-6000			10.6	OH	OH functional low molecular weight urethane oligomer, used as modifier for amino crosslinked systems. It improves hardness and chemical resistance while reducing the paints VOC level.	X	X	0	X	0	X					



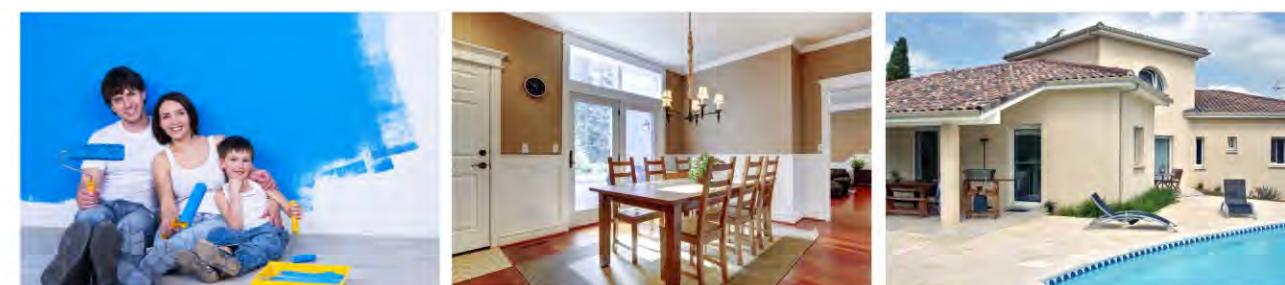
Hydrophilic Polyisocyanate — Hydrophilic Polyisocyanate

Product	NCO content (%)	Viscosity (mPa.s)	Color (Apha)	Modification	HDI Monomer (%)	Key Features	Metal	Wood	Plastic	Wall	Concrete	Glass
Aquolin® 161	18.5	2000-4000	<60	Polyether	<0.1	HDI based water dispersable polyisocyanate for use in waterborne coatings and adhesive products.	X		X			
Aquolin® 163	17.5	1500-3500	<60	Polyether	<0.1	HDI based water dispersable polyisocyanate for use in waterborne coatings and adhesive products with good flexibility.	X	0	X			
Aquolin® 166	22	700-1700	<60	Polyether	<0.1	HDI based water dispersable (hydrophobic) polyisocyanate for use in waterborne coatings and adhesive products with highest flexibility						
Aquolin® 168	16.2	2000-5000	<60	Polyether	<0.1	HDI based water dispersable (hydrophilic) polyisocyanate for use in waterborne coatings for its clarity, high gloss, good outdoor durability and long potlife.	0	X	0			
Aquolin® 268	20.5	5000-7000	<80	Sulfonic	<0.1	HDI based water dispersable (hydrophilic) polyisocyanate for use in waterborne coatings for its high gloss and body and good water resistance	0	X	0	X		
Aquolin® 270	21.5	1500-3500	<80	Sulfonic	<0.2	HDI based water dispersable (hydrophilic) polyisocyanate for use in waterborne coatings and adhesive for high gloss.	X	X	X	0	0	X
Aquolin® 278	22.5	1500-3500	<80	Sulfonic	<0.2	HDI based water dispersable (hydrophobic) polyisocyanate for use in waterborne coatings. Hardener can be used without adding solvents and gives egg-shell gloss (especially in emulsion coatings).	0	0		X	X	
Aquolin® 269	19.3	500-2000	<80	Sulfonic	<0.2	HDI based water dispersable (hydrophilic) polyisocyanate for use in waterborne coatings to give highest gloss, body and water resistance. Hardener can be used without adding additional solvent.	X	X	X	0	0	X
Aquolin® 280	19.2	<1000	<80	Sulfonic	<0.25	HDI based water dispersable (hydrophobic) polyisocyanate for use in waterborne coatings. Hardener can be used without adding solvents and will give lower gloss due to its hydrophobicity.	X	0	0	X	X	



Hydrophilic Polyisocyanate — Hydrophilic Polyisocyanate Plus

Product	NCO content (%)	Viscosity (mPa.s)	Color (Apha)	Modification	HDI Monomer (%)	Key Features	Metal	Wood	Plastic	Wall	Concrete	Glass
Aquolin® 161plus	18.5	2000-4000	<60	Polyether	<0.1	HDI based water dispersable polyisocyanate for use in waterborne coatings and adhesive products.	X		X			
Aquolin® 163plus	17.5	1500-3500	<60	Polyether	<0.1	HDI based water dispersable polyisocyanate for use in waterborne coatings and adhesive products with good flexibility.	X	0	X			
Aquolin® 166plus	22	700-1700	<60	Polyether	<0.1	HDI based water dispersable (hydrophobic) polyisocyanate for use in waterborne coatings and adhesive products with highest flexibility						
Aquolin® 168plus	16.2	2000-5000	<60	Polyether	<0.1	HDI based water dispersable (hydrophilic) polyisocyanate for use in waterborne coatings for its clarity, high gloss, good outdoor durability and long potlife.	0	X	0			
Aquolin® 268plus	20.5	5000-7000	<80	Sulfonic	<0.1	HDI based water dispersable (hydrophilic) polyisocyanate for use in waterborne coatings for its high gloss and body and good water resistance	0	X	0	X		
Aquolin® 270plus	21.5	1500-3500	<80	Sulfonic	<0.1	HDI based water dispersable (hydrophlic) polyisocyanate for use in waterborne coatings and adhesive for high gloss.	X	X	X	0	0	X
Aquolin® 278plus	22.5	1500-3500	<80	Sulfonic	<0.1	HDI based water dispersable (hydrophobic) polyisocyanate for use in waterborne coatings. Hardener can be used without adding solvents and gives egg-shell gloss (especially in emulsion coatings).	0	0		X	X	
Aquolin® 269plus	19.3	500-2000	<80	Sulfonic	<0.1	HDI based water dispersable (hydrophilic) polyisocyanate for use in waterborne coatings to give highest gloss, body and water resistance. Hardener can be used without adding additional solvent.	X	X	X	0	0	X
Aquolin® 280plus	19.2	<1000	<80	Sulfonic	<0.1	HDI based water dispersable (hydrophobic) polyisocyanate for use in waterborne coatings. Hardener can be used without adding solvents and will give lower gloss due to its hydrophobicity.	X	0	0	X	X	



Additive — Thickener

Product	Type	Shear rate	Solid content (%)	Active (%)	Viscosity (mPa.s)	Solvent	pH	Key Features
Vesmodity® A401	HASE	Medium	30	30	<100	Water	2-4	Hydrophobically modified alkali swellable thickener designed to give medium shear rate viscosity. It improves gloss and levelling and anti-splash property. It has good compatibility in many coatig types.
Vesmodity® A406	HASE	Low-Medium	30	30	<100	Water	2-4	Hydrophobically modified alkali swellable thickener designed to give low to medium shear rate viscosity. It supports scrub and water resistance and has good thermal stability.
Vesmodity® A801	ASE	Low	29	29	<100	Water	2-4	Alkali swellable thickener to improve low shear rate viscosity (e.g. avoid settlement). It has high thickening efficiency and good thixotropic behavior as well as thermal stability.
Vesmodity® U300	HEUR	High Shear	20	20	3000-8000	Water	6-7	Nonionic urethane rheology modifier suitable for any waterborne coating, perpared with Unicap™ technology, in high shear rate viscosity. It gives excellent flow and levelling. It supports water and alkali resistance and can be used in wide pH range.
Vesmodity® U505	HEUR	Medium-High	40		3000-8000	DBGE/Water	6-7	High solid nonionic urethane rehology modifier for medium to high shear rate viscosity. It allows to formulate an excellent balance between flow and sag properties and supports water and alkali resistance.
Vesmodity® U601	HEUR	Low-Medium	35	20	26000-34000	Water	6-7	Nonionic urethane rheology modifier suitable for any waterborne coating, efficient pseudoplastic behavior, in low to medium shear rate viscosity. It gives excellent levelling and sag resistance and can be used in wide pH range.
Vesmodity® U604	HEUR	Medium	25	15	12000-17000	Water	6-7	Nonionic urethane rheology modifier suitable for any waterborne coating, efficient pseudoplastic behavior, in medium shear rate viscosity. It gives excellent levelling, sag water and alkali resistance. Can be used in wide pH range and is very stable in combination with all kind of colorants.
Vesmodity® U605	HEUR	Medium	40	40	30000-38000	DBGE/Water	6-7	High solids nonionic urethane rheology modifier suitable for any waterborne coating, efficient pseudoplastic behavior, in medium shear rate viscosity. It gives excellent levelling, sag water and alkali resistance. Can be used in wide pH range and is very stable in combination with all kind of colorants.
Vesmodity® U902	HEUR	Low	35	20	15000-20000	Water	6-7	Nonionic urethane rheology modifier suitable for any waterborne coating, efficient pseudoplastic behavior, in medium shear rate viscosity. It gives excellent levelling, sag water and alkali resistance. Can be used in wide pH range and is very stable in combination with all kind of colorants.
Vesmodity® U905	HEUR	Low	40	40	30000-38000	DBGE/Water	6-7	High solids nonionic urethane rheology modifier suitable for any waterborne coating, efficient pseudoplastic behavior, in medium shear rate viscosity. It gives excellent levelling, sag water and alkali resistance. Can be used in wide pH range and is predominantly used in pigmented systems.

Aliphatic isocyanate — Wannate® NCO Monomer

Product	Type	Purity (%)	NCO (%)	Viscosity (25°C, mPa.s)	Color (Pt-Co)	Key Features
Wannate® HDI	NCO	≥99.5	≥49.7	≈3	≤30	Diisocyanate, free of any aromatic structure with outstanding flexibility & durability used for high performance coatings e.g. Automotive OEM & Refinish, metal, plastics & wood coatings.
Wannate® HMDI	NCO	≥99.5	≥31.8	≈30	≤30	Cycloaliphatic diisocyanate that provides excellent chemical durability, hydrolysis resistance and durability to be used in applications like elastomers, waterborne polyurethanes, UV resin & spandex additives.
Wannate® IPDI	NCO	≥99.5	≥37.5	≈10	≤30	Isophorone diisocyanate which allows controlled poly-addition with polyol co-reactants to produce waterborne polyurethanes, adhesives, coatings & inks.
Wannate® X-600	NCO	≥99.5	≥43.0	≈6	≤30	Cycloaliphatic diisocyanate shows high reactivity, excellent curing and outstanding durability performance. Used for polyurethane resins, coatings, sealants & adhesives.

Aliphatic isocyanate — HDI Biuret

Product	Solvent	Solid content (%)	NCO (%)	Viscosity (25°C, mPa.s)	Color (Pt-Co)	Residual Monomer (%)	Key Features
Wannate® HB-100	None	100	21.7-22.3	9000 ±2000	≤80	<0.5%	General purpose HDI Biuret; good weathering; good chemical resistance and mechanical properties; non-yellowing.
Wannate® HB-75B	BA	75	16.2-16.8	150 ±50	≤40	<0.5%	Solvent cut version of HB-100; good weathering; good chemical resistance and mechanical properties; non-yellowing.
Wannate® HB-75MX	MPA/Xylene (1:1)	75	16.2-16.8	225 ±75	≤40	<0.5%	Solvent cut version of HB-100; good weathering; good chemical resistance and mechanical properties; non-yellowing.



Aliphatic isocyanate — HDI Trimer

Product	Solvent	Solid content (%)	NCO (%)	Viscosity (25°C, mPa.s)	Color (Pt-Co)	Residual Monomer (%)	Key Features
Wannate® HT-100	none	100	21.7-22.2	2500 ± 750	≤40	<0.2	General purpose HDI trimer polyisocyanate; non-yellowing and good weathering; good chemical and mechanical resistance.
Wannate® HT-100A	none	100	21.5-22.5	2550±750	≤40	<0.1	FDA food contact apprval version; non-yellowing and good weathering; good chemical and mechanical resistance.
Wannate® HT-90B	BA	90	19.5-20.1	500 ± 150	≤40	<0.2	Good weather stability and non-yellowing; good chemcial resistance.
Wannate® HT-90BS	BA/SN (1:1)	90	19.5-20.1	500 ± 150	≤40	<0.2	Good weather stability and non-yellowing; good chemcial resistance.
Wannate® HT-790B	BA	90	17.3-18.3	1800 ± 700	≤40	<0.2	Fast drying and better chemical resistance with higher funcitonality; outstanding mechanical properties.
Wannate® HT-600	none	100	22.5-23.5	1200 ± 300	≤40	<0.2	Low viscosity trimer for high solid and waterborne formulation; good weather stability and non yellowing.
Wannate® HT-600LV	none	100	23.0-24.0	900-1500	≤40	<0.25	Low viscosity trimer for high solid and waterborne formulation; good weather stability and non yellowing.
Wannate® HTBL-175S	SN	75	≈11.1 (blocked)	3250 ± 750	≤60	<0.2	MEKO Blcoked HDI trimer; good weather stability and good adhesion; outstanding chemical reisistance.
Wannate® HTBL-275MS	MPA/SN	75	≈10.9 (blocked)	3500 ± 1000	≤100	<0.2	DMP Blocked HDI trimer; low baking temperature; good weather stability and chemical resistance.



Aliphatic isocyanate — HDI Trimer Plus

Product	Solvent	Solid content (%)	NCO (%)	Viscosity (25°C, mPa.s)	Color (Pt-Co)	Residual Monomer (%)	Key Features
Wannate® HT-100plus	none	100	21.7-22.2	2500 ± 750	≤40	<0.1	General purpose HDI trimer polyisocyanate; non-yellowing and good weathering; good chemical and mechanical resistance.
Wannate® HT-90Bplus	BA	90	19.5-20.1	500 ± 150	≤40	<0.1	Good weather stability and non-yellowing; good chemical resistance.
Wannate® HT-90BSplus	BA/SN (1:1)	90	19.5-20.1	500 ± 150	≤40	<0.1	Good weather stability and non-yellowing; good chemical resistance.
Wannate® HT-600plus	none	100	22.5-23.5	1200 ± 300	≤40	<0.1	Low viscosity trimer for high solid and waterborne formulation; good weather stability and non yellowing.
Wannate® HT-600LVplus	none	100	23.0-24.0	900-1500	≤40	<0.1	Low viscosity trimer for high solid and waterborne formulation; good weather stability and non yellowing.

Aromatic isocyanate — TDI Adduct

Product	Solvent	Solid content (%)	NCO (%)	Viscosity (25°C, mPa.s)	Color (Pt-Co)	Residual Monomer (%)	Key Features
Wannate® TL-75E	Ethylacetate	75	12.9-13.7	1500 ± 500	≤0.2	<0.5%	General purpose TDI-TMP adduct polyisocyanate; good adhesion to various surface; air drying capability; used for 2K polyurethane coating and adhesives.

Aromatic isocyanate — TDI Trimer

Product	Solvent	Solid content (%)	NCO (%)	Viscosity (25°C, mPa.s)	Color (Pt-Co)	Residual Monomer (%)	Key Features
Wannate® TT-150E	Ethylacetate	51	7.2-7.6	250 ±100	≤1.0	<0.5%	Quick drying, low viscous TDI trimer polyisocyanate.
Wannate® TT-150B	Butylacetate	51	7.2-7.6	115 ±35	≤2.0	<0.5%	Faster drying, low viscous TDI trimer polyisocyanate.
Wannate® TT-350E	Ethylacetate	51	7.7-8.3	1300 ±500	≤1.0	<0.5%	Rapid drying TDI polyisocyanate.
Wannate® TT-350B	Butylacetate	51	7.7-8.3	375 ±75	≤2.0	<0.5%	Fastest drying TDI trimer polyisocyanate

Specialty amine — Specialty amine

Product	Type	Purity (%)	Color (Hazen)	Moisture content (%)	Key Features
Wanamine® IPDA	Amine	>99.7	<15	≤0.2	Amine fucntional curing agent for epoxy-based systems such as flooring, heavy-duty and protection coatings
Wanamine® H12MDA	Amine	>99.0	<50	≤0.1	Amine fucntional curing agent for epoxy-based systems such as flooring, heavy-duty and protection coatings

Acrylic Monomer — Acrylic Monomer

Product	Type	Purity (%)	Inhibitor MEHQ (ppm)	Color (Hazen)	Moisture content (%)	Key Features
Wanamine® HEMA-98	Acrylic	>98%	200	<30	≤0.1	OH functional methacrylic monomer for production of functional polymers for contact lenses, super absorbent resins, adhesives, thermosetting, light-curing coatings, automotive OEM (Refinish) and industrial coatings.